

REMARKS/ARGUMENTS

In response to the Office Action dated June 13, 2007, Applicants respectfully request the Office to enter the above amendments and consider the following remarks. By this response, Applicants cancel claims 1-8, amend claims 12-15, 17, 19 and 21, and add new claims 24-43. Thus, after entry of this paper, claims 9-43 will remain pending in this application. Applicants also amend FIG. 4A and FIG. 4B. The amendments to the drawings are supported by the specification, for example, by paragraph 40 in the originally filed application (paragraph [42] in U.S. Publication No. 2005/0162802).

In the Office Action, the Examiner (i) rejected hand-made drawings; and (ii) rejected claims 1-23 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,130,517 to Yuan et al. ("Yuan").

Drawings

By this paper, Applicants amend FIGS. 4A and 4B. The amendments to the drawings are supported by the specification, for example, by paragraph 40 in the originally filed application (paragraph [42] in U.S. Publication No. 2005/0162802).

In the amended FIGS. 4A and 4B, the coarse stage actuator 430 and the fine stage actuator 440 are added. The coarse stage actuator 430 and the fine stage actuator 440 are described in detail in paragraph 40. For example, paragraph 40 describes that,

"FIG. 4A shows stage system including coarse stage 410, fine stage 420, coarse stage actuator 430, and fine stage actuator 440. ... Coarse stage actuator 430, a linear motor utilizing a Lorentz force in one embodiment, is coupled between coarse stage 410 and base member 450. ... Fine stage actuator 440 is coupled between coarse stage 410 and fine stage 420, and

moves fine stage 420 relative to coarse stage 410 independently from E-I pairs 260 and 270 ...”

Applicants respectfully submit that the amendments to the drawings are supported by the specification and request the Office to enter the amended drawings.

The drawings (FIGS. 8-10) have been rejected as being hand-made. Applicants submit formal drawings including FIGS. 8-10 with this response.

35 U.S.C. §102(b) Rejections

Claims 1-23 have been rejected under 35 U.S.C. §102(b) as being anticipated by Yuan. Without acquiescing to the rejection and in the interest of expediting prosecution, Applicants have canceled claims 1-8, and amended claim 12-15, 17, 19 and 21 to further clarify the recited invention. The rejection to claims 1-8 become moot now.

Claims 9-11

Independent claim 9 recites a method of moving a fine stage device including a step of “manipulating the relative position of the target member by moving the attracting framework relative to a base member to decrease the distance between one of the attracting members and the target member during a coarse stage adjustment phase.” In the Office Action, the Examiner indicated that this may occur, as shown in FIG. 1, “when target 120 moves to the right towards attracting member 124 whilst stage 10 simultaneously moves to the left on base 112.” However, Yuan indicates “[c]oarse stage control system 310 moves coarse stage 110 as necessary to maintain an appropriate gap distance, i.e., less than 400 μm .” See col. 8, lines 40-42. Yuan clearly intends to maintain the appropriate gap distance between the target member and the attracting members, but not “to decrease the distance.” Therefore, claim 9 is not anticipated by Yuan.

Claims 10 and 11 depend from claim 9 and are patentable for at least the same reasons as set forth in connection with claim 9.

Claim 12

Independent claim 12 recites that “during a constant velocity phase, the actuator changes a gap size between the target member and an attracting member that provides deceleration during a deceleration phase by moving at least one of the first attracting member and the second attracting member relative to a base member.” As discussed above with respect to claim 9, Yuan clearly intends to maintain the appropriate gap distance, but not to “change a gap size,” especially “during a constant velocity phase.” Thus, Yuan fails to disclose an actuator, which changes a gap size between the target member and an attracting member during a constant velocity phase.

Claims 13-23

Independent claim 13 recites that “the controller is adapted to change gap size between the target member and one or more attracting members that provide an acceleration force and/or a deceleration force to the target member ... during a constant velocity phase followed by the acceleration and/or deceleration phase.” Independent claims 14, 15, 17, 19, and 21 recite the same or similar limitation.

As discussed above, Yuan clearly intends to maintain the appropriate gap distance, but not to change the gap size. Thus, Yuan fails to disclose a controller, which is adapted to change gap size between the target member and one or more attracting members during a constant velocity phase followed by the acceleration and/or deceleration phase.

Claims 16, 18, 20, and 22-23 respectively depend on claims 15, 17, 19, and 21 and are patentable for at least the same reasons as set forth in connection with the respective independent claims.

New Claims 24-43

New independent claim 24 recites that a controller “controls the actuator to change gap distances between the target member and the first and second attracting members during an intermission of generating the attracting force.” Yuan fails disclose

a controller, which is adapted to change gap size between the target member and one or more attracting members during an intermission of generating the attracting force.

Thus, independent claim 24 is patentable over Yuan.

Claims 25-31 ultimately depend from claim 24 and are patentable for at least the same reasons as set forth in connection with claim 24.

Independent claim 32 recites "a controller coupled to the actuator to change gap distances between the target member and the first and second attracting members in accordance with the direction of a resultant attracting force generated by the first and second attracting members." Yuan fails disclose a controller, which is adapted to change gap size between the target member and one or more attracting members.

Thus, independent claim 32 is patentable over Yuan.

Claims 33-39 ultimately depend from claim 32 and are patentable for at least the same reasons as set forth in connection with claim 32.

Independent claim 40 recites "changing a position of the target member with respect to the first and the second attracting members when the fine stage is moving at a constant velocity." As discussed above, Yuan intends to maintain the appropriate gap distance, but not to change the gap size. Thus, Yuan fails to disclose "changing a position of the target member with respect to the first and the second attracting members when the fine stage is moving at a constant velocity." Claim 40 is patentable over Yuan.

Claims 41-43 ultimately depend from claim 40 and are patentable for at least the same reasons as set forth in connection with claim 40.

Conclusion


In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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